Electricity on the Farm

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A Monthly Magazine for the Progressive Rural Family

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JUNE
1930

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Electricity on the Farm

Vol. 3 JUNE, 1930 No. 6

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Convenience and Economy
are the things you will appreciate in the

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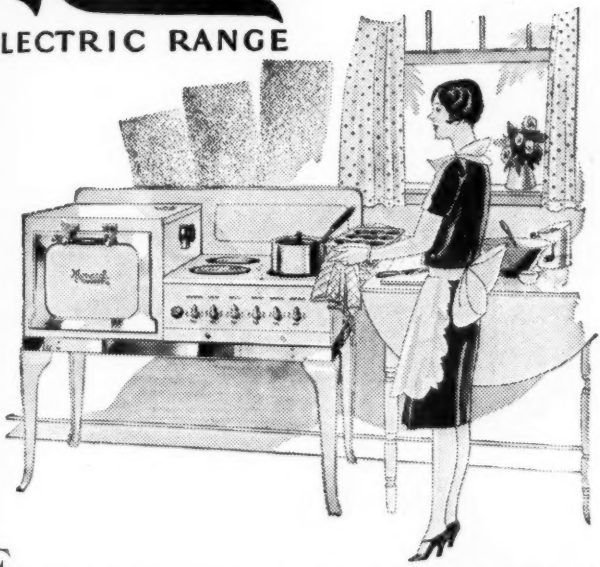
ELECTRIC RANGE



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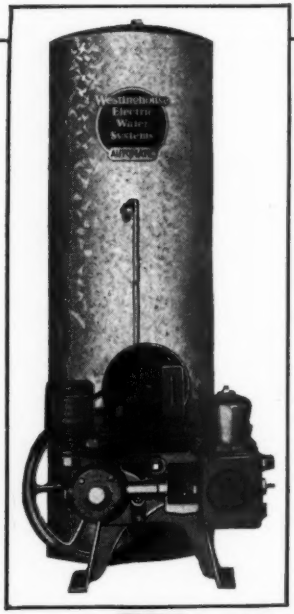

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Please send me information regarding the type of Westinghouse Automatic Electric Water System I need to meet the following requirements: My source of water supply is Well . . . . . Cistern . . . . . Spring . . . . . Lake . . . . . No. in family . . . . . No. Rooms . . . . . Have ( ) have not ( ) electricity. No. head of stock . . . . . We use about . . . . . gals. water daily.

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E.F.-6-30

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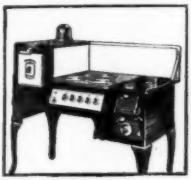
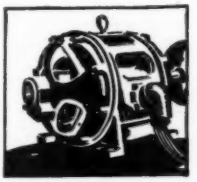
is no place to do ironing

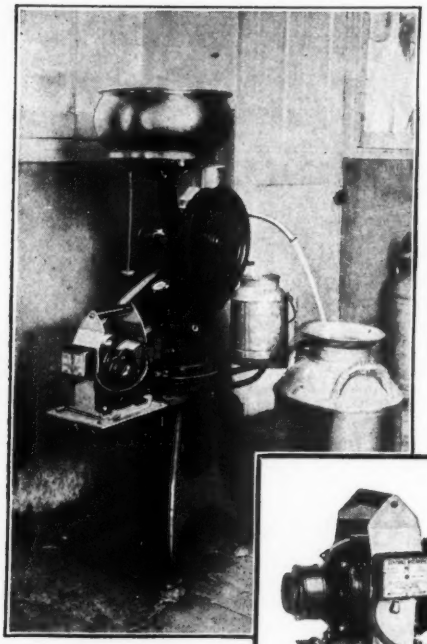
Ironing the old stove-heated way gives you two choices, both unpleasant. You either work in the hot kitchen or you make countless long trips back and forth to the stove. But with electricity, you just set up your board on a cool porch, plug in your Westinghouse Iron, and watch the work hurry through. Only Westinghouse gives you all the latest features — automatic heat adjustment (iron neither cools off nor overheats) — genuine Chromium finish (slips over clothes 30% easier) — and special point for ironing around buttons. Your local power company or nearest Westinghouse dealer will gladly demonstrate. Just mention Westinghouse.



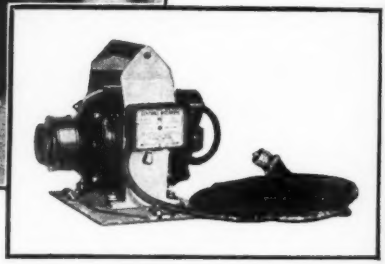


The Complete Farm Electrification People

Westinghouse



A *new hired hand for a* FEW CENTS A DAY



Right—*The complete one-quarter-hp. Westinghouse Portable Farm Motor*

IF you could hire a new "hand" for a few cents a day, you would certainly do it, wouldn't you? A "hand" who would do all your routine chores, such as turning the cream separator, the churn, the apple grader, the fanning mill, etc.

The new Westinghouse fractional horsepower portable farm motor will do all these chores for a surprisingly small sum. Inexpensive base plates make it a matter of less than a minute to change this motor from one device to another.

It doesn't cost much, and the time and money it will save you the first few weeks will easily repay its cost.

See the Westinghouse dealer or your local power company for more complete information.

The Complete Farm Electrification People

Westinghouse

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Your MYERS Dealer Offers a *Complete Line of* Dependable Water Systems for Your Selection—

MYERS Self-Oiling Water Systems are made in an unusually complete line—to meet every possible need of small and large farms, summer homes, country estates, centralized schools, churches, institutions, creameries, hotels, golf courses—wherever city water service is not available. Sizes range from low priced outfits for the smallest home up to plants of 10,000 gallons per hour capacity. There are systems for both deep and shallow wells, for operation with central station electric current, farm lighting plant, gasoline engine, wind-mill, hand power. The outfits illustrated on this page suggest the extremely wide range of Myers service.

See your Myers dealer before you buy any water system—at any price — or write direct to us for illustrated booklet.

THE F. E. MYERS & BRO. CO.

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Makers for over 50 years of Myers Pumps for every Purpose, Hay Tools and Door Hangers.

Fig. 2510—Myers Shallow Well Water System. Where the well or cistern is not more than 22 feet deep, this low-priced, quality-built water system is ideally adapted. Capacity 250 to 300 gallons per hour. Completely automatic—self-starting, self-stopping, self-oiling. Designed for operation with central station electric current or farm lighting plant. Furnishes all the comfort and convenience of running water always on tap.

No. 2511 is for wells more than 24 feet deep—a complete, large capacity unit, suitable for large homes, farms, estates, schools, creameries, etc. Automatically controlled, self-starting, self-stopping, self-oiling. Operates from station current or farm lighting plant. If you want a reliable deep well outfit that will operate without attention, see this Myers plant.

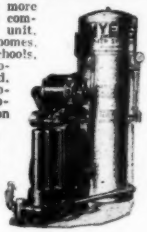
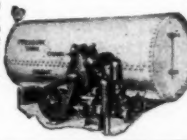


Fig. 2521 is for wells 24 feet deep or more. No storage tank is required. It is completely automatic. The opening of a faucet anywhere along the line starts the pump, forcing fresh water direct from the well. Automatic air volume control. Belt driven. No attention necessary. Capacity range, 150 to 435 gallons per hour. Designed for operating with central station current or farm lighting plant.

Myers Gas-Engine Operated Water Systems, built for either deep or shallow wells. Where electric current is not available, these engine driven pumping plants offer the ideal system. Starting pedal makes engine easy to start in any weather. When electric current arrives, replace engine with electric motor and you have an entirely automatic plant.



MYERS Self-Oiling Water Systems

Cook Electrically and save time for other things

THE Hotpoint electric range is one of the greatest time savers that electrical service brings to the farm home. It turns itself on and off, automatically, at exactly the time you have set. You needn't spend a minute in watching it—a wonderful saving of time for other things.

Its automatic temperature control does away with all the old uncertainty of baking and roasting. Canning work is greatly simplified and a real pleasure—with a Hotpoint. Hotpoint ranges are made with extra-large oven—for large families and for farm use.

And there are a hundred other applications of electricity that save time, work, and money. Feed grinders, for instance, and ensilage cutters, electric milkers and churns, all driven by General Electric motors, save hours of labor.

General Electric appliances heat and pump water; preserve food as well as cook it; wash, iron, and clean; light the house and barns brilliantly and economically. Even to the hidden wires and wall switches, you can depend on G-E quality and service.

Think about it in terms of economy—economy of labor and time and cost. Your power company will tell you all the details.

Join us in the General Electric Hour, broadcast every Saturday evening on a nation-wide N. B. C. network

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GENERAL ELECTRIC

Electricity on the Farm

Vol. 3 JUNE, 1930 No. 6

Sanitation on the Farm

It was not so many years ago that typhoid fever was classed among the more common diseases in rural sections. Then, as at the present time, polluted water was largely to blame for the typhoid toll.

Due chiefly to the activities of the various state boards of health, proper practice with regard to the construction of wells, and placement of privies and other out buildings, is now far better understood, and as time goes on the chances of typhoid fever will be greatly reduced. Occasionally the washing of milk containers in polluted water results in the spread of typhoid to cities, so that unsanitary conditions on the farm may have far reaching effects.

The most common cause of polluted water is the infiltration or seepage of polluted waste into wells. Although a well may be considered a deep one, and located quite a distance from outbuildings, pollution may still be possible, for water can seep great distances through rock cleavages or porous strata, if conditions are proper. Under such conditions the casing and sealing of the well, after driving it to a safe depth, and the proper handling of sewage are the only effective means of guarding against pollution of well water.

Modern water systems enable the farm home to secure pure, clear water from great depths without imposing heavy labor on the part of the housewife or other members of the family. The use of septic tanks, of proper design, very effectively reduces the danger of pollution.

Typhoid is not the only water-borne disease which results from sewage reaching potable supplies, so that any safeguards built around water systems create an effective barrier against many of the other ailments common to farm communities. Unfortunately, disease germs cannot be seen with the naked eye nor do they necessarily impart taste or odor to the water so that the water which may be considered pure and sparkling may be highly dangerous. The only safeguard against typhoid and other water-borne diseases is to keep water and sewage separate by modern methods of sanitation.

Electricity Helps a
Master Farmer

By Robert Hienton

IF JOHNNY APPLESEED could wander again over his old trail in northern Ohio, he would find larger apple orchards than he ever thought possible, and Johnny, as everyone knows, was quite a dreamer. Tradition tells us that he planted his appleseeds so that future generations might have their daily apples. Nowadays horticulture is a science, and the keeping of apples fresh throughout the winter and spring is one of its important achievements.

W. T. Mann

Geographical Factors

Good air, drainage, proximity to Lake Erie, which tempers late frosts in the spring as well as early ones in the fall, nearness to market and favorable soil conditions are the main factors that have united to bring into being the large orchards of the late Dr. Bingham at Chesterland, Scotland and Kirtland, the Mantle and Mantle orchards at Painesville, and the Grand River orchards operated by Mr. W. T. Mann at Unionville, Ohio. Electricity has also enabled Mr. Mann to eliminate the uncertain temperatures of common storage, for he has recently completed one of the largest mechanically refrigerated apple storage plants of its kind in the state. The plant is located at the orchard and is under refrigeration for its first season.

Layout of Plant

The two-story main building is 68 feet wide and 125 feet long and is divided into two sections, one 100 feet long and the other 25 feet long. The entire lower floor and three-fourths of the upper floor of the longer section are used for storage, and the remaining fourth is used for shipping, loading, sales and show. The bottom floor of the shorter section is used for common storage and the second floor is used for grading and packing.

The automatic refrigerating equipment maintains a temperature between 31 and 34 degree F. in the storage rooms. The 24-ton ice machine is driven by a 40-horsepower motor and there is a 5-horsepower motor that pumps the water for the condenser. The pump has a capacity of 150 gallons per minute.

A 2-horsepower motor is used to operate the grader over which the apples are sorted as soon as they are picked. The fancy grade is sorted first, after which the apples are packed in bushel baskets, stamped according to variety, size, and grade, and stored in their proper niche in the huge storage rooms. The installation of proper lighting equipment over the grader has materially increased the daily output of the sorting and packing crew, according to Mr. L. G. Dean, foreman of the orchards and operator of the refrigerating equipment.

Refrigeration Employed

Mr. W. T. Mann, president and manager of the Grand River Orchards Co., and one of Ohio's 1929 Master Farmers, estimates that there is refrigerated storage capacity for 35,000 bushels of apples, with an additional capacity of 15,000 bushels for common storage.

Even with the unfavorable season this year the yield was very close to 30,000 bushels. Mr. Mann has developed his 250-acre orchard in the last 15 years, and when the entire orchard is in full bearing he expects that the average yearly yield will be more than 75,000 bushels.

Fancy Grades Stored

The fancy grades of all varieties are stored in the refrigerated rooms as soon as they are packed, and are marketed as the demand warrants. The choice grades are kept in common storage and also on the sales floor and most of them are disposed of during the fall months. Mr. Mann intends to store the fancy grades until some time in late May or early June. The Grand River Orchards are located within 50 miles of Cleveland, Warren and Youngstown, Ohio, and within 60 miles of Erie, Pa., so they are within easy trucking distance of their principal markets.

Until this year the winter apples have been put into commercial storage plants at either Cleveland or Erie. By having refrigerated storage at the orchards the expense of double trucking, when selling in Warren or Youngstown, is eliminated, as well as the commercial storage charge. The quality of the fruit is also improved by putting it into storage as soon as possible, and with the equipment available Mr. Mann can now store the cheaper grades for a short time.

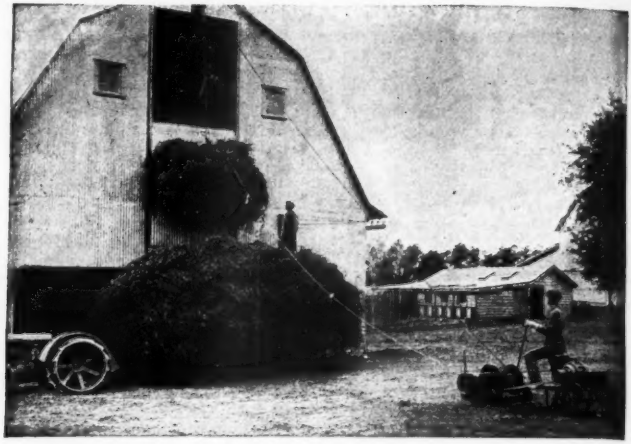
An average of 100 bushels per day were sold at the house during last fall, and the storage plant enables Mr. Mann to hold and dispose of, at the orchards at a better price, some of the fruit that he could not afford to hold otherwise.

Mr. Mann and Mr. Dean are very well pleased with the operation of their plant, and Mr. Mann states that electricity, for power and light, is absolutely essential in the successful management of a modern orchard.

Speaker: "I wish you'd refrain from cracking walnuts during my speech."
Guest: "I will when you refrain from cracking chestnuts."

"Say, Joe, where's your girl that you were going to bring to the prom?"
"Aw, I had a date with one of the Siamese twins and she couldn't get away."

The Sorting, Grading and Packing Room of the Grand River Orchards Company



Portable Motor Driving Hay Hoist at E. E. Zella Farm, Richmond, Virginia

Hoists or Horses

By E. R. Meacham

FOR half a dozen years John McCutchin of Arena, Wisconsin, has used a 3 horse power electric motor instead of a team to hoist his hay.

"All of my children have had to take their turn driving the horse on the hay rope," he told me when I went out to his farm, one cold winter day to see his hoist and learn just how he used it. "The youngest were twin girls, and by the time they were big enough to drive, their mother needed them pretty bad in the house. That was one of the things that persuaded me to get this hoist—and this was six years ago."

The hoist not only sent the children back to the house, but put the extra team out in the field. Two men are a crew when they use the hoist, one on the load and one in the mow.

"This makes our unloading a lot quicker than it used to be," says Mr. McCutchin. "We don't spend much time at the barn. My neighbor up the road says it seems to him as though he never would get his hay in. He unloads at one end of the barn, and has the boys driving the horse at the other end.

"He sets the fork and yells, 'ready.' Then nothing happens. The rope is as slack as before. He jumps down from the load, runs clear round the barn, and finds the boys arguing about whose turn it is to drive. That's boys, you know."

A motor is different. Mr. McCutchin starts it as soon as the load comes in. Then he goes to the mow and leaves his son on the load to manage the fork. And managing the three ropes for the hoist levers and the fork does call for considerable skill. But Mr. McCutchin told me that the boy had grown so handy with them that he could manage all three without getting down from the load. Instead of letting the ropes lie on the hay to entangle his feet and interfere with his setting the fork, he has

them neatly arranged on a pole across the driveway above his head. They run over pulleys, and the ends hang within easy reach of his hand.

That makes unloading a speedy matter. Mr. McCutchin and his son can get the hay from the load to the mow in seven minutes if they hurry, but Mr. McCutchin says that speed swamps him, of course, for no one man can level off a load of hay across a 42 foot mow in that length of time. A good man on the load will keep two men busy in the mow.

Enduring

"This hoist of mine will last for generations—not for years—but for generations," he urged enthusiastically. "There is nothing to wear out about it but the wooden blocks of the clutch. They can easily be replaced."

The motor is mounted on the same skids with the hoist, giving him perfect belt alignment and making an outfit that is easily moved from place to place. For the McCutchins put in around 200 loads of hay a season, and the hoist must be moved from one barn to another as the mows fill up. The hoist does not interfere with using the motor for other jobs. During the winter he uses it on a small feed mill, grinding grain for the cows.

These power hoists are big winding drums started or stopped by levers that control a clutch and brake. Some of the hoists have a drum that lifts the hay, and a counter balance to pull the fork back to the load. Some have double drums, one to lift and the other to return the fork. Where the motor is used for other purposes, the hoist is usually belt driven. But for a complete unit to be moved from place to place, or for a very compact installation where only a little room is available, it is very convenient to use gear drive, mounting the motor right on the skids of the hoist itself. This makes a handy combination to place on a platform or balcony over the driveway of the barn, where it will not take up any floor space.

Speed Ratio

Whatever the method of drive the gear or pulley ratio should be such that the hoist will not reel in more than about 200 feet of rope a minute. And the pulley on the motor should be at least 4½ inches in diameter to provide good belt contact.

The proper size of motor to use seems to depend pretty largely on

Mr. McCutchin's Motors Help Him in the Shop Before the Busy Season Begins

the other work for it to do. It is perfectly practical to use a 5 horse power or even a 7.5 horse power motor for this purpose. But because of the tremendous overload which a motor can carry for a few seconds and because the heavy pull in hay hoisting is very brief, some farmers use motors even as small as 2 horse power successfully. Of course the speed of lifting must be reduced when the smaller motor is used. But the motor starts so promptly, is under such perfect control, and brings the fork back so quickly that even a small motor does the work faster than a team.

And the power cost is less than horse power, too. The actual amount of energy that will be used for each ton of hay hoisted will vary, of course, with the height and length of the barn, and with the position from which hay is unloaded. In experiments made the country over the current used varies from 1/10 to 2/3 of a kilowatt hour a ton. Perhaps half a kilowatt hour would be a fair average. Thus Mr. McCutchin can move a couple of hundred tons of hay from the load to the mow with not over 100 kilowatt hours of energy. For the small cost of this power he is able to keep all of his teams in the field.

Baby Chicks Grow Fast

Baby chicks do a lot of growing in the first four weeks of their lives. H. L. Shrader, extension poultryman in the United States Department of Agriculture, says they double in size in the first two weeks. Not satisfied with such a record, they double in size again in the next two weeks, if they get the right kind of attention.

Two essentials for success in rearing baby chicks, Mr. Shrader explains, are plenty of heat and feed. A good rule to follow in feeding chicks, he says, is to provide a hopper 4 feet long for each 100 chicks. At the end of three weeks another hopper should be added.

Mechanical Ventilation Best for Greenhouses

FORCED air ventilation of greenhouses has been found effective in controlling the development and spread of leaf mold, mildews, and various fungus diseases on vegetables. This is the substance of a statement by Professor A. G. Newhall of Cornell University in a radio talk delivered a short time ago.

In his broadcast, Professor Newhall reviewed the findings of tests with forced air ventilation at Cornell. The ventilating system used in the tests employed the same principle as that found in power ventilation systems for dairy barns, or general barns for live stock. The air is brought in by an electrically powered fan, and when necessary it is preheated. Another outlet fan carries away the stale and moisture laden air as fresh air is supplied.

Basic facts back of the superiority of forced air ventilation for greenhouses, are that high humidity is certain to result inside the houses unless the moist air is carried away. High humidity is the greatest factor in development and spread of all types of fungus diseases. Because of these facts, it is essential that ventilation be as nearly perfect as possible, and in attaining this object power ventilators have proved very efficient.

Temperature Affects Water Loss

An example cited to stress Professor Newhall's point was the relation of the water loss from an acre of tomatoes to temperature. In December, the loss per hour was only about 150 gallons, but in June it was found to reach 400 to 500 gallons. Such a differential would be certain to result in moisture laden air inside the greenhouse.

Professor Newhall is also of the opinion that this principle of ventilation will be helpful in rose greenhouses where the black spot disease occurs.

Farming for Fine Furs

By Arnold T. Pamperin

ABOUT forty years ago. Charles Dalton and Robert T. Oulton on Prince Edward Island, Canada, began an experiment of far reaching importance—that of raising red and silver foxes in captivity. For ten years indifferent success followed their efforts, but thereafter pelt prices, which had been languishing, jumped to unusual heights. Through a misconception, it was believed that the silver fox was merely a defective black. When Dalton and Oulton sold their first pelts, it was noticed that they were of a quality superior to those taken from wild caught animals, and buyers bid briskly for the skins. Thus was born a very valuable industry—that of domestic breeding and raising of fur-bearing animals.

With the world's natural supply becoming depleted at an alarming rate, the trade is requiring more and more domestic raised furs from year to year. The domestication of the fox has advanced rapidly, whereas other animals are becoming almost extinct. Good pelts are assured only where long, cold winters are experienced. While foxes can be raised successfully in almost any part of Canada and in the United States, Wisconsin has become a center of the industry.

In the spring of 1929 the Wabeno Silver Black Fox Ranch, Inc., was organized at Wabeno, Wisconsin, for the purpose of breeding and raising silver black foxes. An eighty-acre tract of land was acquired and during the summer the construction of the ranch began. A five acre tract was enclosed with a guard fence and thirty pens constructed therein, leaving sufficient room to increase this number to 108 pens. Each pen is 25 by 50 feet in size and is made of 16 gauge, 2 inch mesh galvanized wire fencing. The pens are also carpeted with 16 gauge, 1½ inch wire mesh to prevent the foxes from digging. A run-way about 10 feet wide between the guard fence and the pens is provided in which a Russian wolf hound is kept. The dog patrols this runway, guarding the

A View of the Ranch Taken From the Tower, Showing the Foxes Sunning Themselves in Their Pens.

foxes from marauders and prowlers.

The Wabeno Ranch now has twenty-two pair of exceptionally fine registered silver black foxes which represent an investment in the neighborhood of one thousand dollars per pair. It is expected to increase this number to one hundred pair in the next few years.

Tower Layout

The main building or tower, as it is called, is a three story affair. The first floor is the kitchen where the food for the foxes is prepared. In a passage adjoining the kitchen is a cold storage room, which is large enough to store three horse carcasses at one time. The refrigeration machine for cooling this room is located in the basement and is a 1000 pound ammonia compressor driven by a one horsepower electric motor. A three horsepower electric motor is also provided in the kitchen for operating a bone and meat grinder used in the preparation of the food for the foxes. On the second floor of the tower are the living quarters for the caretaker and the third floor is used for observation purposes and also as an office where the necessary ranch records are kept. The tower and yard are brilliantly lighted with large electric lamps and an electrically operated water system provides running water under pressure throughout all the buildings.

It is generally believed that it is a simple matter to feed foxes and that about all they require is horse meat. As a matter of fact, in order to produce the best pelts their diet must be as carefully planned and as well balanced as that of a patient in a hospital. It is true that the principal item of food is horse meat, but this must be properly boiled and then ground and mixed in the proper proportions with other foods. The following ingredients are used in preparing fox food: horse meat, beef trimmings, hearts, tripe, liver, fox biscuit, whole wheat bread, bran, cracked wheat, wheat germ, oatmeal, corn meal, shredded wheat, alfalfa meal, rice, oil meal, charcoal, iodized salt, cod liver oil, honey, molasses, raisins, prunes, eggs, milk, carrots, onions, tomatoes and lettuce. Green bones are also ground up and mixed with the regular meals.

About October first, the breeders are segregated. Mating usually takes place in January, February and March and the pups (the baby foxes are called pups because the fox is a true canine) are born in March, April or May. The number of pups per litter runs from one to eight. After the birth of the pups, the mother fox must not be frightened because under such circumstances she develops a fear that her babies will be taken from her and in endeavoring to conceal them, she often buries them in the ground or in the snow where they perish.

Although the domestic bred fox becomes accustomed to its keepers, it never becomes tame, and great care must be exercised in handling them because their teeth are very sharp and they will bite when molested. Some ranchers use iron tongs for handling these animals but this is not good practice as it is apt to injure them; a skilled keeper readily catches a fox by the tail or hind legs and transfers his hold to the back of the neck in which grip the fox is helpless.

Foxes are killed when their coats are in the best condition and the pelts become prime in November, December, and January, depending upon the climate and feeding. The fox is laid on its side and its chest crushed with the foot. This method is now acknowledged as the most merciful and does not injure the pelt. After killing, the fox is skinned and the skin scraped and dried on a wooden frame. After a vigorous brushing and cleaning, the pelt is ready for the raw fur market.

At the present time, ninety percent of the silver fox furs on the market are supplied by ranch-bred pelts and at the rate this industry is growing, there is no indication that there will be a shortage of the supply in the future.

On the Islands of Bermuda

By Vera Brothers Meacham

OUR boat slipped slowly out of New York harbor on a cold toggy day toward the last of June. The chill out on the open ocean was so penetrating that the passengers huddled in their deck chairs wrapped in winter coats and tucked round with woolen steamer rugs.

But overnight we passed into another sort of world. We were headed southeast toward the islands of Bermuda and the next morning found us in the vivid blue of the gulf stream with clear skies overhead.

While we were dressing that first morning there was a hesitant knock at our door.

"What is it?" I asked through the door.

"It is the stewardess, madam," said a deferential voice. "I am sorry to disturb you, but your friend Mrs. Lindsay, is having a little attack of seasickness. I have tried to reassure her but she insists that she must see you before she dies."

I hurried into the rest of my clothes and stepped into the adjoining stateroom.

There are I suppose fewer fruitless tasks than trying to comfort a sufferer from mal de mer.

"Oh, Vera, I'm going to die. I'm going to die," she wailed.

"Oh but really, you aren't, my dear," I interrupted, in an ill advised attempt at consolation. "Nobody dies of seasickness."

She sat up indignantly, clutching at the side of her berth.

"I am so," she insisted glaring at me. "The hope that I'm going to die is all that keeps me alive."

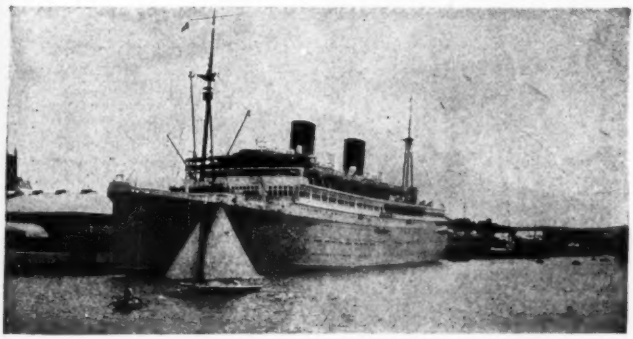
But most of us spent the lovely idle days on deck, watching the games, marvelling at the flying fishes that scud away before the boat, crowding to the rail to watch a school of dolphins tumble about through the water, or just idly watching the far blue horizon rise and fall, fall and rise again beyond the edge of the deck.

My husband rose early to catch the sun coming up over the far, flat waste of water, and the second morning out he came back from his early vigil calling excitedly.

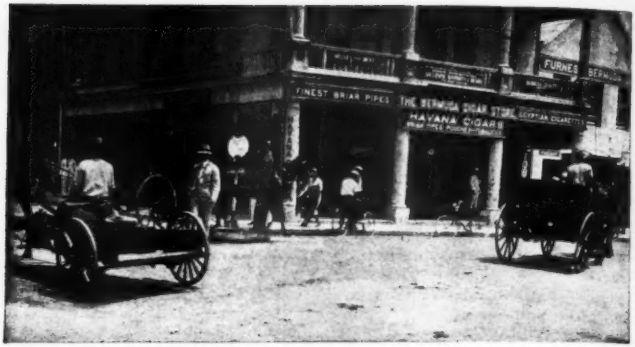
"Get up! Get up! We are in sight of land."

I hurried into my clothes and followed him to the sun deck. There directly before us, green and white in that indigo sea lay a curve of islands stretching out like a crooked crescent. Faint clouds of pink like drifts of apple blossoms lay in patches here and there.

We clung to the forward rail and



At Dock in Hamilton Harbor



A Typical Street Scene

gazed at this delicate, romantic beauty for hours. We had never been so far away from our own country before, and this first picture of Bermuda satisfied all our anticipations of foreign charm.

The green hills were covered with small twisted cedars. The white was the houses, "sugar loaf houses," Mark Twain called them. The hints of apple orchards, we were to learn later, were rows on rows of azaleas in full bloom.

After a lighter from St. Georges had taken off part of our cargo and some of the passengers, we rode around Spanish Point, through a narrow, closely marked channel cut out of coral rock to Hamilton Harbor.

We Sat on Deck and Watched the Sea and Sky

Front Street in Hamilton is a scene of exhilerating bustle and confusion on boat days. Motor cars, all save a truck, and an ambulance, and a fire cart, government owned, are banned from Bermuda, but a line of horse drawn carryalls move importantly forward at the nods of one of the half dozen traffic officers detailed for duty at the wharf. Each one receives a pile of hat boxes, traveling bags, golf clubs, and a miscellaneous assortment of excited passengers, then turns around right in the middle of the street, skillfully avoiding the bicycles that are plunging back and forth at reckless pace, and trots off, keeping always to the left to the breath taking concern of the American visitor.

We took our place in the line, piling into a swaying, darkey driven carryall, and pounded away over the white roads, past high stone walls with rosy azaleas nodding to us over the rim, past the occasional flaring glory of the scarlet hibescus flower, past rows of graceful, stately Royal Palms, and up winding narrow roads, so narrow that we had to turn out for a bicycle, to the bay where the Grasmere stood.

It was a pleasant little cove, small enough to make a private bathing pool for the guests, but big enough to open out across the larger bay and give a glimpse of

the maze of islands that dot these seas.

The Bermudas are about 150 in all. Some half dozen of the larger islands are strung on a thread of bridges and causeways that make a highway from one corner of Ireland Island across to the end of St. Georges, a distance of about thirty-five miles.

These islands are the tops of a curving coral reef. There is only a light layer of soil spread thinly over the top. Sometimes it is a matter of a few inches; in some of the richest valleys it reaches a depth of several feet.

Burgess, who drove us daily about the islands, was an unfailing mine of information about the curious new world we saw about us. The first morning we set out with him in his comfortable, shabby two-seated trap, I asked:

"Burgess, what do you build these houses out of ?"

"They's coral, Ma'am," he answered readily. "You just buys you a hill, and cuts you out some coral, and then you builds your house."

Negroes saw the coral out of the tall quarries with a crosscut saw, and pry the great pillars of stone over with crow bars. It is quite soft and cuts down like ice. Blocks of coral make the walls of the houses. Thinner blocks serve as partitions between the rooms, and two inch slabs lapped one over the other make the roof.

They Pump the Water Up to Tanks on the Roof

Then, because the soft coral disintegrates with the passing years, they plaster the outside of the houses with a thin cement. That is why the cities look so gleaming white in the sunlight. But there are many lovely touches of color, too. It is quite easy to mix a little color with the thin cement, and many of the houses are in lovely pastel shades of delicate apricot, green and rose.

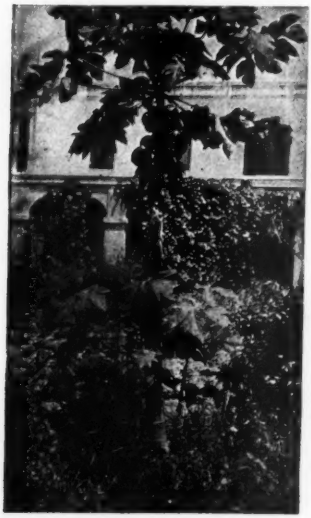
With far fewer exceptions the roofs are white. The reason for that is not far to seek. All of the potable water in Bermuda comes from heaven. It is a country without a well. There are no subteranean streams underlying that coral rock. So each house makes its roof a water shed,—white

Sawing the Coral Blocks for Building

A Water Catch

washed, according to law, twice a year. Householders store water for private use in big cisterns. It is pumped up to tanks on the roof, or into pressure systems, by hand, by engine, and by motor, to give running water in the houses.

To provide against a water famine the Imperial government keeps always a store on hand. The army camp has a liberal supply, too. They, and the great hotels need more than the area of a roof to provide drainage surface.



The Paw Paw Grows Everywhere

We had noticed even before we landed on the islands, great patches of white that looked like snow drifts on the distant hills. Closer views showed them to be bare rock.

"What makes that rock so white, Burgess," I asked one morning on our drive.

"That's a water-ketch, ma'am," he answered readily. "Water-ketch, yessum."

These hillsides had been scraped quite free of soil, whitewashed to keep them clean, and filled with long reservoirs across the bottom to catch the water that poured over their sides in the frequent rains.

Since Bermuda has an annual rainfall of 53", these reservoirs are never empty.

Laws require that they be emptied and cleaned once every five years so their sanitary conditions are entirely satisfactory.

Some of the smaller hotels are forced to economize to the extent of setting the water level for baths at six inches,—but nowhere else is there any sense of limitation. The water tastes good even to northern palates accustomed to mineral tang. Apparently some minerals are taken up in the passage over white washed roofs or the water catch.

The two cities of Hamilton and St. Georges have municipal sewer systems, and water piped about for

fire protection, but they use sea water for these.

Apparently the fire risk in a country of stone houses and equable temperatures is small.

Burgess shook his head vaguely when I asked him about fires.

"I been here seventeen years,' he said, "Ain't been but three fires I remember in that time."

When we bought our passage to Bermuda, our friends laughingly said.

"If the lily season is past, bring us an onion, won't you?"

And I think that we with most of our friends had some vague idea that most of the islands were covered with onion fields.

But Bermuda onions are largely a Texas product now. Most of the farming in Bermuda is done by Portuguese, and it is hard to get them to compete with the American farmer in the marketing of his crop. Texas growers grade and advertise more skillfully.

Bermuda Supplies Early Vegetables

But Bermuda sends New York green vegetables in January, early potatoes in May, and carrots and beets before our own growers can get their crop on the rails. Potatoes and celery have been their largest exports in these later years.

There are a few herds of Guernsey cattle on the islands. Some of the farmers raise hogs for local consumption,—and there are occasional flocks of poultry, but the local supply of poultry products does not equal the demand.

Mr. E. A. McCallan, Director of Agriculture says in his report for 1926.

"A local market profitable to the majority of farmers is their own households. Subsistence farming, to give it its proper name, is supplying from the farm the largest reasonable proportions of the family requirements in meat, dairy products, poultry, fruits and vegetables. It is a market undeveloped on most farms, for Bermuda farm families like town families, live largely out of tin cans and paper bags. Not until a determined effort is made to supply from the farm all the family food that can be economically produced on it, will the farmer realize how large a saving can be effected."

More and more rapidly the Bermudians are learning that it is easier to farm tourists than it is to farm the land, so the agricultural development is slowly slipping behind.

We were keenly interested in the little patches of banana groves with the upside down bunches of short green fruit, and in the round yellow paw paws growing in clusters high over our heads. But simple as they are to raise, many are imported to supply the local demand.

(Continued on page 32)

A Bermuda Farmstead

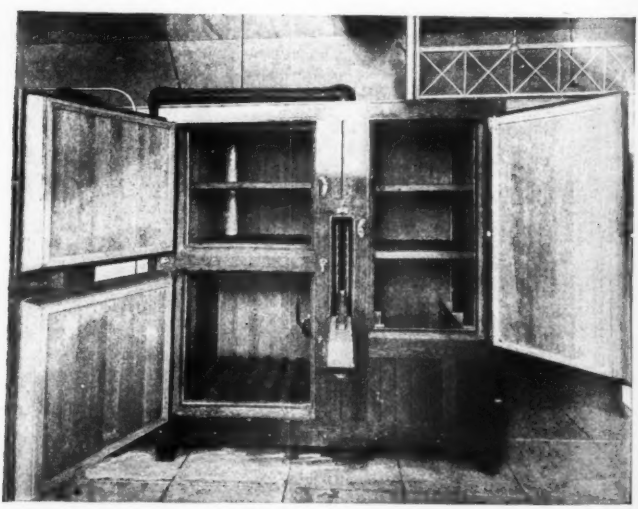
"A Southern Farm Refrigerator"

By E. C. EASTER
Agricultural Engineer

BASED on the need of refrigeration on Alabama farms, as determined by experimental studies made by the Alabama Agricultural Experiment Station, a new farm refrigerator has been designed. This box, as illustated in the accompanying photograph, includes a space for chilling farm meats and also for "salting down" such meats as it may be desirable to cure. On the other side and at the bottom is sufficient space for four ten-gallon cans of milk or four crates of eggs, or two or each. This space can, of course, be used for the storage of any perishable products. At the left top of the box is space for the usual household products for the family table. In a back corner of this space is a coil for cooling water for drinking purposes connected with pipe to a faucet at the front of the box. The expansion coils for cooling the box are located at about the center of the box horizontally, and between the coils are long trays for making ice to be used in tea, iced water, for making ice cream, or other uses in the home. At the bottom of the expansion coils is a damper with which the temperature of one side of the box can be made lower than the other. This provision makes it possible to freeze meat in the meat chilling compartment without freezing the materials on the other side.

This box is cooled by a refrigerating machine with capacity equal to about ¼ ton of ice per 24 hours operation for general farm refrigeration. For small dairy farms a brine tank is added and a larger machine is used.

Suitable refrigerators will no doubt stimulate profitable farm diversification in the South, eliminate the waste of many perishable products on the farm, improve the quality of milk, butter, eggs, meats and other perishables to be eaten by the farm family; and increase the farm income by making it possible to market perishable products that are wasted if refrigeration is not available.



This Roomy Refrigerator Was Designed for Farm Service

Soybeans Now on Our Table as Well as in the Stable

SOYBEANS, long considered in this country as feed fit for livestock only, are gradually finding a place on the American table. Soybeans have been utilized for many centuries by the people of the oriental countries in the preparation of numerous fresh, fermented, and dried food products.

"Extensive experiments in North America and Europe indicate the value of soybeans as the basis of food for persons requiring a low starch diet, says the United States Department of Agriculture, and for many years food companies have had the market forms of soybean flour prepared for persons requiring a diet of this kind. Investigations have shown that soybean flour as a gruel is a most valuable food for infants.

In North America the soybean has attracted attention at various times as an article of food, but until recently it had not been used to any great extent. Several food manufacturers have now begun the manufacture of various food-stuffs, such as soy sauce, soybean flour, breakfast foods, and edible oil, from soybeans. Two obstacles which will have to be overcome before the soybean is accepted generally are prejudice and custom, factors which often operate against new foods.

[redacted]

No organization could announce the loss of one of its members with a deeper sense of regret than we do the untimely death on April 29th of **Harold T. Murray,** Vice-president and Western Manager of the Case-Shepperd-Mann Pub. Corp. Mr. Murray was an untiring worker in the cause of rural electrification. In fact, his enthusiasm and energy were largely instrumental in the establishment of *"Electricity on the Farm"* in July, 1927.

[redacted]

Scientists Improve Flax by Killing the "Least Fit"

PROF. H. L. BOLLEY, of North Dakota, and his coworkers developed improved flax by sowing seed in the very fields worst infested by the wilt organism. This resulted in the destruction of the seedlings that were susceptible to wilt. Relatively few of the plants were able to survive and mature seed for the next year's sowing, but the few that did survive were the more valuable because they had demonstrated the ability to grow in spite of the wilt.

Further seedings on less infested soil showed that these selected strains would make a crop where ordinary flax would fail. Once the wilt resistance was established it was possible to select seedlings having other desirable characteristics. This was the method followed at the North Dakota and Minnesota experiment stations and at the Northern Great Plains Field Station of the United States Department of Agriculture. It was responsible for the selection of improved varieties of wilt-resistant flax such as Bison, Linota, Buda and Winona which have made it possible to grow flax with success and profit on old lands, where common unselected flax would fail.

Feed Grinding an Important Farm Job

Increased use and need for ground feed among dairymen, poultrymen and livestock men have led to many developments in feed grinding equipment. An increase in the amount of available power on farms in the form of tractors, electric motors and gasoline engines has made farm grinding an easier and simpler matter while improvements in the construction of the grinders themselves have made them more efficient and cheaper to operate.

John Aasen, a movie star, is 9 feet tall.

How We Use Electricity

By Pearl M. Reifsteck

ABOUT four and one-half years ago the Illinois experimental electric line was built near Tolono. This line served ten farms that were completely electrified in an effort to find out if the extensive use of electricity would be practical. We were fortunate in being cooperators on that line. Records were kept before and after the equipment was installed. At that time we felt just a bit skeptical. We wondered if it could do all claimed for it, and, if so, would the cost of operation be prohibitive. We resolved that we would give it a fair test.

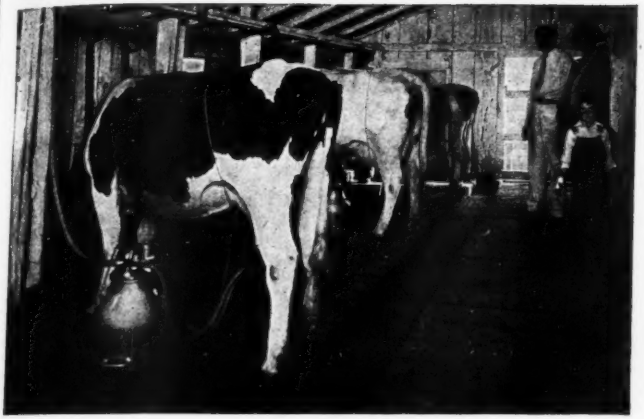
This test lasted three years and at the end of that time results were fairly satisfactory. Our experience has been that in order for a farmer to get the greatest good from electricity he must use it for other things besides lighting the house and outbuildings, washing and ironing.

We must pay a minimum bill every month, for which we receive 150 kilowatt hours of electrical energy. For all above that amount used, the rate is considerably lower. The big problem was, "How can we use a minimum of 150 kw. hrs. worth of energy every month to best advantage?

To us, the best piece of equipment is the water system. It renders service to each member of the family. All of us who have carried water know that it takes a great deal of time and energy, especially if it must be carried quite a distance. It offers protection in time of fire, and a very strong point in its favor is that it uses very little current. Our deep well system pumps water to the house and to the stock as well. Last year it used only seven and one-half kw. hrs. per month.

According to the benefit that I have received from my equipment I would place it in the following order:

Water Systems
Washing Machine,
Iron,
Vacuum Cleaner,
Refrigerator,
Range,
Kitchen-Aid,
Dishwasher.

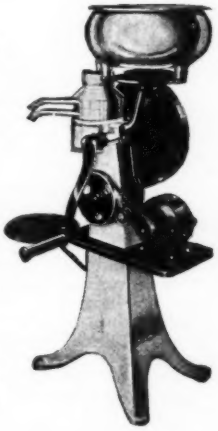


Put Electricity to Work Separating and Milking the De Laval Way

"WE have been using the De Laval Magnetic Milker powered by an electric motor since the middle of last June and are glad to say that milking is now a pleasure instead of a dread," writes Mrs. Verna May, owner of the May Dairy at Senath, Mo., whose milker is shown in operation above. De Laval Magnetic Milkers have eliminated the drudgery of hand milking on thousands of farms and are doing a better job of milking, providing cleaner milk, and saving valuable time and labor.

Try a New "3,000,000" Golden Series De Laval Separator

After you have tried one of the new "3,000,000" Golden Series De Laval Separators you will agree that it is the greatest separator ever built. Notice especially the trailing skim-milk discharge, two-length crank and properly protected ball bearings. These machines can be equipped with electric motor drive attachment as shown.



THE DE LAVAL SEPARATOR COMPANY
New York, N. Y., 165 Broadway
Chicago, Ill., 600 Jackson Blvd.
San Francisco, Calif., 61 Beale St.

Please send me, without obligation, full information on:

☐ Electrically driven milker
☐ Electrically driven separator
(Check which)

Name .....

Town .....

State .....

The washing machine not only saves time but much hard work. The tests show that it is possible to do in one and one-half hours a washing that would take three hours to do with a hand turned machine and five hours on the board. One reason why I like my machine is because all of the parts are enclosed. Our machine consumes about one and one-half kilowatt hours per month, seldom more. Any good machine will operate for from one to five cents an hour, depending upon the cost of current.

An electric iron is a popular piece of equipment because it makes the work easier and enables the user to save much time, often as much as one-third. Its cost is small and it is said that practically every home with electric service has one.

The Vacuum Cleaner

The vacuum cleaner does away with the semi-annual housecleaning when the house is turned topsy-turvy. It is the sanitary way to sweep. Besides lessening the wear and tear on the rugs it reduces the time of cleaning. I use it in a great many ways, such as removing the dust from the muslin curtains of the poultry houses. The cost of operation is small, the gain in cleanliness and the saving in labor are great.

If one has an electric refrigerator the ice problem is solved. The fact that ice is often high in price and that a farmer must go several miles after it keeps many from having an ice box. Some of the advantages of an electric are: the air is cold and dry, thus food will keep longer than in a cold, damp atmosphere. Perishable foods may be purchased in larger quantities. The temperature can be held at the desired number of degrees and lower than is possible with ice. Ours is large enough to hold a cream can and we consider this an advantage as it keeps the cream sweet until it can be taken to town, thus a better price can be obtained for it. Another advantage is that frozen desserts and salads are made with little effort.

The average monthly use of energy in our refrigerator for the past year was thirty-six kilowatt hours. July was the high month and it used seventy-one kilowatt hours of energy, so you see that it compares favorably with the cost of ice. Things to be remembered are that the location of the box and the amount of foods frozen will have an effect upon the amount of energy used and the cost of operation. Choose a box large enough to suit your needs, as it has been shown that the difference between the amount of energy consumed by a large and a small box is slight.

The electric range is one of the pieces of equipment that we thought we could not afford, but experience has taught us that it is not as costly or as much of a luxury as one might suppose. It is convenient, clean, safe, dependable and requires practically no care.

The amount of current consumed depends a great deal upon the skill of the person using the stove. It is wise to do a great deal of the cooking in the oven, as this cuts the cost of operation. I use a pressure cooker with success as it reduces the amount of energy used almost one-half. The reason for this is because it is possible when using it to prepare the entire meal at one time, using only one burner. All of our cooking is done on the range, and while its use may cost more than some other means of cooking its good qualities justify the added cost.

Very Desirable Equipment

Although the first cost of a kitchen-aid is high, it is a very desirable piece of equipment, and especially so if the family is large. It mixes bread, cakes, whips cream, beats eggs, grinds meat, cuts cabbage, mixes pastry and biscuits, freezes ice cream, grinds coffee, churns and does many other things. I like it best for churning. The cost of operation for one month has been as low as six cents.

At first I did not care for the dishwasher as it did not always wash the dishes clean. But I find that if I use plenty of hot water for washing and rinsing, and water softener in place of soap flakes or chips it will do a satisfactory job.

Send the coupon for the facts about this famous Thor Washer

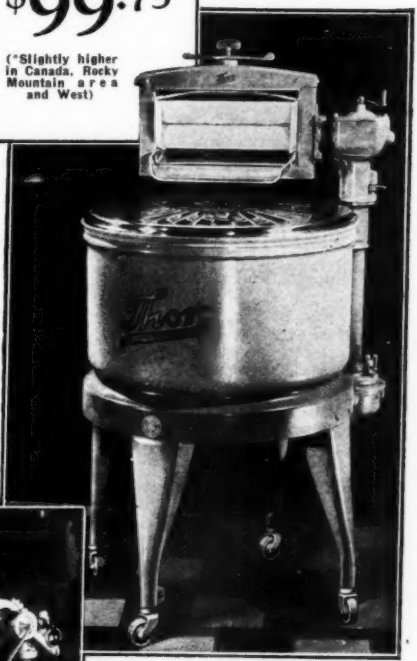
at only

$99.75

(*Slightly higher in Canada, Rocky Mountain area and West)

Don't let anyone sell you a washer until you have thoroughly investigated this Thor Washer at $99.75 The coupon below will bring you a complete description and actual color photographs of this washer—the finest Thor ever built. In beauty, in speed and in efficiency this washer has never been excelled *at any price.* The tub is beautiful ripple green porcelain—inside and out. Has all the latest improvements — including Jumbo Balloon Wringer Rolls and many other features described in our free illustrated literature. Mail the coupon now. It will show you how to save from $30 to $60.

Hurley Machine Company
22nd Street and 54th Ave.
Chicago, Ill.



Here is the Thor Attachment Iron which converts any Thor washer to a Speed Ironer in 30 seconds. Simply lift off the wringer, set the attachment iron in place. Only $49.50.

Thor

The Thor Agitator Washer with Speed Iron attachment, $149.25.* Send for free literature.

HURLEY MACHINE CO.,
Dept. 3-6, 22nd St. and 54th Ave., Chicago.

Please send me free descriptive literature on Thor Speed Washers and Ironers.

Name .....

Address .....

City ..... State .....

The fact that it uses so much water may be a disadvantage in the eyes of some women, especially if there is not a plentiful supply. There are many different kinds on the market and they are continually being improved.

The percolator, fan, marcel iron and toaster add to the joy of living and use a small amount of energy.

Farm women should get more benefit from electrical equipment than their city sisters because of the variety of tasks to be performed. While it saves time and energy, its value cannot be determined in the same way as that used outside. Things of this kind are not to be judged from the standpoint of dollars and cents alone, even though they may actually effect savings. The value of higher standards of living cannot be measured in terms of money.

Should Make Money

However, in these times of financial stress, one would be slow to install electrical equipment unless it can be shown that it actually saves or makes money or that the convenience and comfort justify the necessary expenditures. My husband and myself consider our brooder, lights in the poultry houses, seed corn germinator and five horsepower motor as sources of income.

In selecting a brooder care must be taken to see that it is large enough to prevent crowding. While in the houses with the electrical brooders the temperature is not so warm some distance away as when using the coal stove type, it is sufficiently warm under the hover.

Lights in the poultry houses are one means of making electricity pay its way. It requires only three to five kilowatt hours per 40 watt light a month. Through feeding a properly balanced home grown ration and using lights to stimulate egg production, it is possible to make enough profit in a month to pay the electric bill for a year. Ours for last year was $139.50.

We find the portable five horsepower motor convenient and practical for elevating corn, grinding feed, etc. It requires only five kilowatt hours of energy to elevate 1000 bushels of corn with a 48-foot drag elevator, 2 to 4 kilowatt hours for grinding 1000 pounds of shelled corn, 8 to 10 for grinding 1000 pounds of oats. Because the motor has an extension cable with push-button station, it is possible to stop and start it from the wagon or corncrib by merely taking the station with you. It makes the preparing of feed for a balanced ration for the poultry and cattle a simple task.

Our homemade seed-corn germinator of 1,152-ear capacity consumes from 17 to 34 kilowatt hours for a germination period of eight days, depending upon the temperature. It is entirely automatic, therefore it is possible to maintain the high humidity so essential to bring out the various diseases. Once regulated it is only necessary to open the door once during the germination period, on the fourth or fifth day to remove the burlap. Since using the germinator, our corn is of better quality.

In closing, I wish to say that we believe that electrical equipment when properly used will pay a dividend the same as any necessary farm equipment. It should be considered not as a luxury but as an investment that will add to the happiness and efficiency of the family and to the income as well.

Little Orphan Annie Modernized

(With apologies to James Whitcomb Riley)

By GRACE BAERTSCH

One time there was a farmer who
would allus laugh an' grin
An' jig' make fun of every one
that had the lights put in;
But once when they had company, an' was having quite a lark,
The baby overturned the lamp
and left 'em in the dark.
They groped around for quite a spell; it sorta spoiled their fun.
While all the neighbors' 'lectric lights were shinin' like the sun.
So then he had the juice brought in, an' lights put all about,
An' when he has his parties—
They
don't
go
out!

RUNNING WATER

not a dream

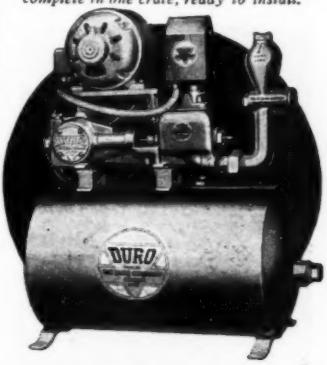
You can have it *EASILY!*

PERHAPS you have thought that fresh running water under strong pressure is fine for those who can afford it—but it's just a pleasant dream to you now. Don't deny your family this greatest of all farm conveniences any longer by thinking it an expensive luxury.

The Duromatic Water System is a money-making investment. It will bring to the farm *real living* such as you have never known before. It is low in first cost—low in operating cost, and you can buy it for a small first payment and then regular easy payments.

Only Duro, world's largest manufacturers of water systems can give you so much for so little. It won't cost you a cent to find out what Duro can do for you. The nearest Duro representative will be glad to advise you.

The Duromatic is a complete automatic, electric water system. Sizes 250 to 600 gallons per hour. Silent, carefree, economical service. Shipped complete in one crate, ready to install.



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Please send me full information on Duro Water Systems, and free advisory service on my requirements.

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Bermuda Islands

(*Continued from page 23*)

Bermuda is a province of the British empire. Though I have never lived in England, it's utter unlikeness to our own country persuades me that it may be most insistently British.

Its history runs quite parallel to our own. The first British settlements were made there about the time of the founding of Jamestown. In early days there was a growth of cedars on the islands, and the British adventurers cut them down and made a famous line of old ships.

The cedars have gone; the succeeding agriculture shows signs of waning, but the beauty and the charm of the islands is near enough the United States to offer a winter playground for American tourists, —and to give the travellers of slimmer purse a tantalizing glimpse of "furrin parts" between boats the year round. Entertaining tourists seems the next economic development in the history of the colony.

Bermuda is British; there are no throngs of picturesque natives throwing garlands and singing melodious farewells as the boats draw away from the docks. But we arrived with eagerness,—were welcomed with courtesy and charm,—and we watched the shores slip away behind the boat with reluctance.

The Blossom and the Bananas

Farm Garden Worth 300 Dollars

The American public is eating more vegetables. Proof of this statement is shown by the increase in production of such humble garden crops as carrots, turnips, and beets. Within five years, carrot production jumped from three to six million bushels.

Importance of the farm garden is emphasized in a release by the extension service of the Ohio State University. Specialists at Ohio assert that the average farm garden should produce $300 worth of vegetables each year, and that with careful planning and handling, a plot one-fifth of an acre in size will readily yield a crop of such worth at market prices.

Traps for Oriental Fruit Moths

Traps baited with a solution of molasses or sugar and water have been found promising as a control measure for oriental fruit moths in tests conducted by the United States Department of Agriculture. The addition of small quantities of aromatic chemicals such as citral increased the effectiveness of the traps about three times. Glass containers of 1-quart capacity were used for traps. Since there is no effective insecticide control for this pest, further tests will be made with the baited traps. This pest, since its discovery in the United States some years ago, has spread well over the peach-growing regions east of about the Rocky Mountains and is causing serious damage to peaches, infesting both twigs and fruit. It also attacks other fruits, as the apple, quince, pear, etc.

The POWER Diamond ON WHEELS

MASTER PORTABLE FARM MOTOR

Easily Moved to Where You Saw Wood . . . Fill Silos . . . Hoist Hay . . . Grind Feed . . . Mix Feed, etc.

Here is a hired hand that never quits—the MASTER GUARANTEED MOTOR made available for various jobs on the farm—jobs which a motor can do quickly and cheaply. Master Motors have come to be called "Power Diamonds" because of their definitely known quality and their *brilliant* performance. They stand up under difficult service. You can depend upon them. They don't need constant tinkering. Write for complete details about this Farm Motor.

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ELECTRICAL HOUSEKEEPING

Conducted by
GAIL MEREDITH

Romance

I will make you brooches and
toys for your delight
Of bird-song at morning and
star-shine at night.
I will make a palace fit for
you and me,
Of green days in forests and
blue days at sea.

I will make my kitchen, and
you shall keep your room,
Where white flows the river and
bright blows the broom,
And you shall wash your linen
and keep your body white
In rainfall at morning and dew-
fall at night.

And this shall be for music when
no one else is near,
The fine song for singing, the
rare song to hear!
That only I remember, that only
you admire,
Of the broad road that stretches
and the roadside fire.
—Robert Louis Stevenson.

"Let's Have Ice Cream"

ONE of the rather special accomplishments of our kitchen motor is freezing ice cream. We did not use it on that job for several months after we got it. We had never been much in the habit of making ice cream, and we kept it pretty busy on the regular routine jobs of getting meals. Though with its help making ice cream becomes an interlude, not a sort of major operation.

We suddenly decided to make ice cream that Sunday on our way home from church. It was very warm and just as we turned the corner past the ice house, somebody suggested:

"Let's have ice cream."

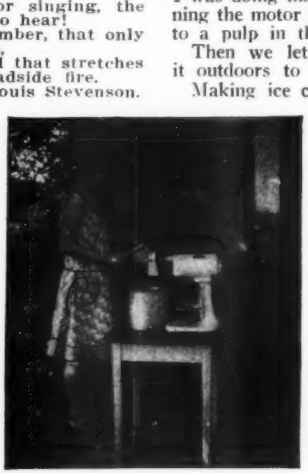
So we stopped in and got a chunk of ice that we carted home on the running board of the car.

We made an ice cream with three lemons, three oranges, three bananas, three cups of sugar and three cups of liquid, part water and part cream.

Frances and I put the fruit extractor on the motor and hurriedly squeezed the lemons and oranges. Then I added the sugar to the fruit juice and stirred it up well. While I was doing that Frances was running the motor to mash the bananas to a pulp in the colander.

Then we let my husband take it outdoors to chip up the ice.

Making ice cream is not necessarily an outdoor job with this motor. But it was shady and cool at the back of the house, and if he cracked up the ice out there, it wouldn't melt around on the kitchen floor.



Frances Chips the Ice

After he had broken the ice up into chunks, Frances put it through the ice chipper. This is a round plate with rows of heavy prongs that scratch the ice up very fine.

She had a pail of chipped ice in short order. We put our mixture in the freezer can, and my husband slipped the ice chipper off the motor and attached the freezer in its place. Then he packed the freezer pail with the chipped ice and a generous mixture of salt, and

Convenience is an Economy

THE cow barn is just another place on the farm where *electrical convenience* is a form of economy. There should be adequate lighting, of course, but in addition there must be an ample number of convenient outlets for use in milking, spraying, separating, grinding feed and for doing other miscellaneous work that directly contributes to profitable farm operation.

These outlets, together with countless others needed around all farm buildings, can be installed at a minimum of expense if you specify *Knob & Tube Wiring*, the system that utilizes hard, vitreous porcelain for insulation . . . the system that insures long life of the installation with absolute safety.

Your own contractor is quite capable of doing a good *Knob & Tube Wiring* job. Call him in now and let him estimate all your requirements. Specify *Knob & Tube Wiring* for Permanence, Safety and Economy.

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SAFE DEPENDABLE ECONOMICAL

Illinois Electrical Porcelain Co.
Macomb, Illinois

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Knoxville, Tennessee

Porcelain Products, Inc.
Findlay, Ohio

started the motor. The ice was so fine that the salt mixed with it thoroughly and immediately started it to melting rapidly. When ice melts, heat must be drawn from something, and in this case it comes from the mixture in the freezer can.

That freezer stands up on metal legs to bring it to the proper height for the motor, and the water that comes from the melting ice drains off tidily into a pail or pan set beneath the spout of the freezer.

In seven minutes a little pointer on the gear housing that shows when the cream is freezing indicated that it was hard. We did not believe it could be, so we all hung over the top of the freezer while my husband carefully lifted it off.

To our astonishment the freezing was done. There the ice was, solid, and creamy and luscious.

A Sunday Job, No Labor, No Muss

After we had each grabbed a spoon, and smacked our lips over a taste all round we decided that making ice cream like that was so ridiculously easy that we would take that can across the road to a neighbor we could see bustling about with dinner and make another for ourselves.

So we did.

"All manners is hard to remember, but eatin' manners is hardest because you don't have company enough to keep in practice."

Willie Willis by Robert Quillen.

New Ways for Old Jobs

EVERY morning for a week I had begun the breakfast-table conversation with:

"I think I'll clean those closets tomorrow."

And every morning my husband had politely but automatically replied "Yes," with a rising inflection.

Closets and shelves are one of the molehills of my housekeeping that time has never made any less of a mountain. I always used to dawdle with the thought of them as long as I could, then turn everything out with terrific energy, shake dust all over the neighborhood, mop up the floors, and start over again relatively clean but somewhat blowsy.

Then I read a new book.

It was not a treatise on interior decoration, nor a study of new housekeeping methods. It was a novel. In it the younger generation wrestled with its soul. One of its revolts had to do with a fancied drabness of the home—and was quelled by a splendid orgy of color splashed on in quarts all over a highly symbolical room.

Now this book has many appeals. Certainly the least important of its contributions is a discussion of painting the inside of a set of drawers gold. But when I came to that part, I instantly decided to line my closets and paper my shelves with paint. I did not lean to gold myself, but I rather fancied lavender.

Our rooms are done in gray. One of them has lavender hangings and spreads, too. So I thought lavender for closets and shelves would be a nice touch.

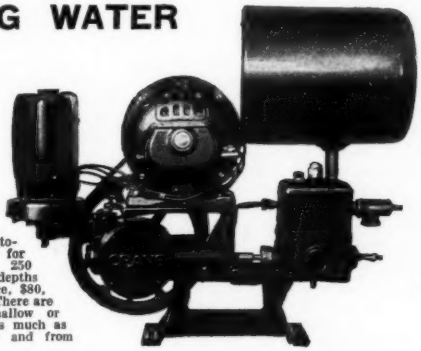
I urged my husband toward the idea. We opened our closet door and looked at it, really looked at it for the first time.

There was a spot at the right where the plaster was knocked off and crumbled down messily on the floor. It had never been painted and was crisscrossed with ugly black streaks where hangers had rubbed against it. The sides were varnished wood; the doors were painted like the room. It was a nondescript, spiritless affair as dull as ditch water.

1855 - SEVENTY-FIFTH ANNIVERSARY - 1930

Let the saving pay for RUNNING WATER

Only a small sum down the rest monthly



The Crane No. 252 Automatic Water System for shallow wells pumps 250 gallons hourly from depths down to 22 feet. Price, $80, f.o.b. Rockford, Ill. There are other systems for shallow or deep wells, pumping as much as 5000 gallons an hour and from depths to 550 feet.

YOUR farm home and lots can now have the comfort, health, and labor-saving brought by running water . . . and you pay while the savings are paying for it. A Crane Automatic Water System, a complete individual works, can be completely installed under the Crane Budget Plan and you pay nothing until everything is in place. Then you pay usually only $5 down, never more than $14; and the rest in convenient installments.

For purchase and installation, consult a Crane Qualified Contractor Dealer, always a registered or licensed master plumber or heating contractor. He will help you plan and arrange the financing.

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Even a husband could see that.

Mine amiably agreed to abet me in my plans to the extent of waving the paint brush. But he refused to dip it in lavender. He recoiled instantly from lavender. Only after much urging, he relented enough to suggest that I could do the closets and shelves in lavender if I insisted, but he'd be hornswoggled—his very word, if he'd have his shirts and socks laid away in pale lavender drawers.

A friend of the family came forward with the suggestion that we compromise on jade green.

Green he would accept.

I was not definitely committed to lavender, so green it was.

It took many hours of work on evenings and stormy days to do the painting. It was a slow and fussy job to cover the inside of a drawer and paint the sides and edges of a shelf. But when we got through, those neglected areas behind closed doors were pranked out in sprightly beauty. When we had the clothes hung back in tidy rows and piles of linen and clothing on shelves and drawers, they had put their best foot forward so effectively, that we were actually glad when someone left a door open.

"Now," I thought, "it will be easy enough to keep a pert green closet clean."

But the months rolled on, and the dust collected, and I found myself starting off breakfast brightly with:

I go over the closets carefully with the hose of my vacuum cleaner.

"I must get at those closets tomorrow," quite as usual.

"I do not see why cleaning closets should take such a lot of planning," said my husband on the fourth day.

"It doesn't," I admitted." Maybe that's why it always seems such a haphazard job."

"Well, how do other people do it?" asked my husband.

I began to wonder. We talk about planning our meals, making our clothes, or stretching the budget, but I've never heard a group of women get right down to clothes closets. So I set myself to find out.

I started with the lady across the road. She is lovely and prim and white haired—the kind of housekeeper whom everyone describes by saying you could eat off her floors.

"Surely," I thought, "she will have it down to a science."

"Closets?" she began. "Of course, I have a definite program for closets. I clean them on the third Wednesday of every third month."

I made an incredulous movement.

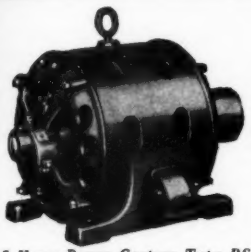
"If it snows or rains," she went on competently, "I have to postpone it a day or two, of course. But if the weather is good, Millie and I get everything on the line and brush and brush and brush every bit of dust out of things. Then we go over them all with a hot iron to take the dampness out and kill any moth eggs that may be there.

"After that we wipe the closets out carefully and put little sacks of cedar shavings and few of lavender around to discourage the moths and keep the clothes from smelling musty. We have a lot of closets in this old house, and we have to be careful of mold and musty odors. Come up and I'll show you how well it works."

We went up to one of the big spare rooms, and she threw open the closet door.

"It's been almost three months since they were cleaned, but you can get a whiff of the red cedar still."

But these old closets were full with fascinating and entrancing



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THOUGH miles removed from city water facilities, you may, by the installation of a Paul Water Supply System, *enjoy the same modern bath, laundry and kitchen convenience as your city neighbor.* Best of all, you can enjoy this Water System while you pay for it. Only a small amount down and 12 small monthly payments buys it. *Write today for more details.*

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old blue uniforms, old gowns with infinitesimal waists and balloon sleeves, stiff wedding suits, and shining high hats.

Our own house boasts but two—each full of every day gear. Except for a wedding dress and a couple of uniforms, popular in our latest war, nothing has a chance to hang about and become history.

Certainly my particular molehill did not need just that sort of leveling.

My neighbor on the left is new in our neighborhood. But she gave a talk recently to our community club on feeding the preschool child, and I felt sure she would have theories about clothes closets.

"Cleaning them?" she began briskly.

I sat on the edge of my chair. One frequently does when she talks. It seems easier to keep up.

"Why closets are the simplest things in the world to take care of if you just do it regularly," she started off. "Take all of the clothes out of them and hang them on the line. Put the line near enough to the kitchen door so you can run your cleaner out there and dust the clothes off with the suction hose."

That appealed to me as a distinctly valuable innovation. Not having any Millie to wield the whisk broom, my brushing had generally been shaking in the past.

Here are the vegetables in a long enamel dish.

"Do you press them all when you bring them in?" I interjected helpfully.

"Press them? No, of course not. What for? The summer clothes were cleaned and pressed before they were hung away for the winter, or the winter clothes for the summer. Those we are wearing are kept pressed."

"But what do you do with the closets themselves?" I ventured.

"I was coming to that," she said in her best lecture manner.

"First of all, I go over the closet with the hose of the cleaner, very slowly, making it pick up any dust on the walls, ceiling, the floors or woodwork. Then I wash it all off with ammonia water, and set the electric fan in it to dry it thoroughly and quickly. Before the clothes go back in, I spray it with one of the commerical moth killers. Mind you, do a good job around the base boards, too, if you use it. That's all you need to keep the closets in excellent shape."

"Thank you a lot," I said, getting up hurriedly.

"And, oh yes," she added, as I hesitated at the door. "If you will just run the hose of the cleaner around the closet, or the shelves, along the rod for the hangers, and down in the corners when you do your regular cleaning, it will keep the dust out of your clothes."

"You've been so helpful," I said with real gratitude. "It sounds very simple and practical as you do it. I simply must get at mine—tomorrow."

Managing a Mechanical Refrigerator

THERE are several tricks to learn in the management of a mechanical refrigerator. The salesman brings it in and sets it up in our kitchen. He plugs in the cord and the noiseless motor begins the long, long job of providing us with continual, barely varying cold.

It seems miraculously simple.

And it is.

The refrigeration is there, and it is constant. We have only to learn to use it most effectively.

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IS SAFER · EASIER · MORE PROFITABLE

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Oakes new 1930 Model automatic brooder raises healthier chicks, saves labor and minimizes losses. The new ventilating shaft is one of the most important improvements in brooder construction since electric brooders were first introduced. Oakes Electric Brooders are low priced and economically operated. Be sure to see them.

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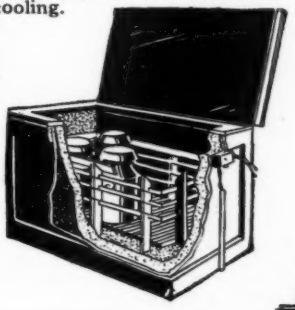
Keeps bacteria counts down . . . secures highest premiums on your milk . . . eliminates handling of ice and troubles due to unsanitary, insufficient cooling.

Automatic, efficient, economical. Always successful. Approved by dairy experts as the most practical method of cooling milk below 50° and *keeping* it cold.



Ask Your Power Company, Electric Refrigeration Dealer, or write direct to us.

ESCO CABINET CO.
World's Largest Manufacturers of Milk Cooling Cabinets
WEST CHESTER, PA.

There is a stream of cold air passing from the chilling unit through the food chamber and back to the chilling unit again. Proper cooling in all parts of the box depends on keeping the way open for that stream of air to circulate.

It is highly important, then, not to overload the shelves and block the circulation of air.

There is a difference in the temperature in different parts of the box. For of course the air is coldest when it has just passed over the chilling unit. Good management demands that we put the most perishable foods in the coldest place. That is directly below the cooling chamber, unless the air is diverted by a tray, as it is in at least one model. Then the coldest place is at the side.

Milk, cream, meat broths, uncooked meat and fish belong in the coldest areas. Butter and eggs come next. Fruit and vegetables can be kept in the warmest place. They are the food that is most apt to have decided odors,—and this position is best on that account too. For the warmest place in the box is just before the air current ends its journey back to the cooling coils, and the air will drop the odors with the moisture that freezes into the coils instead of carrying it along to flavor the next food it touches.

The air in the refrigerator will be fresher if most of the food is kept in tightly covered dishes.

These dishes serve a double purpose of shutting in odors and preventing the food from drying out.

The cold in a mechanical refrigerator is a dry cold. The moisture in the air is constantly being frozen out of it onto the chilling chamber. That builds up the layer of frost it carries. The air picks up the moisture from any uncovered food. That may make the food dry out too much, and it will make the necessity for defrosting more frequent. This means a slight increase in the current for operation.

If you are careful about getting your money's worth, you will not want to waste it even in so small a way.

Since the mechanical refrigerators have become popular many new dishes particularly designed for use in them have come onto the market.

Some of them are enamel; some of them are glass; some of them, heavy porcelain. They often come in sets that fit snugly one on top of the other and save room in the refrigerator. They are all sizes to take care of fresh food and little wads of left overs as well.

Some of them are made of heavy oven glass so the food can be cooked and stored in the same dish.

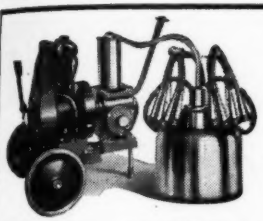
The newest refrigerator dish is a ventilated, porcelain affair for vegetables. It has been made a part of some of the refrigerators. Separate dishes can be bought and used in any of them. They are deep and roomy, and they do keep the perishable green vegetables crisp and fresh.

Fly Sprays for Animals

Labeling fly sprays for animals as 100 per cent effective against flies and as having power to increase milk production above normal is unjustified by the facts. Furthermore, the oil sprays are not harmless, nonpoisonous, nor safe under all conditions and they can not be relied on to prevent the spread of contagious diseases. Such representations, therefore, should not be made on labels, says the Food, Drug, and Insecticide Administration of the United States Department of Agriculture.

Bird-Banding Studies Cover Century

Bird banding in the United States dates from the time of Audubon, who about 1803 marked a brood of phœbes with silver wire and was rewarded the following season when two of the banded birds returned to nest in the same vicinity. Since then more than 400,000 birds have been banded in the United States and Canada by cooperators of the United States Biological Survey. Under the migratory bird treaty act, anyone who bands birds must have a Federal permit.



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and easier to put together because it has fewer parts. Fords Milker Method is used on thousands of farms because it produces finer quality milk. No long pipe line to be contaminated. Cows like it—give milk freely. Finest construction, completely guaranteed. Many models to fit any barn condition.

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Fully enclosed running in oil. No chains or sprockets. Improved Safety design—and almost noiseless.

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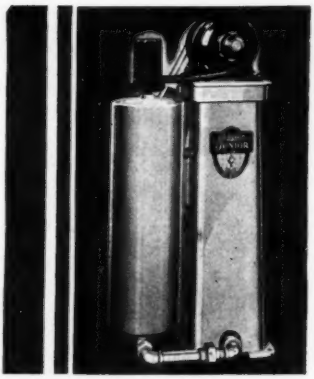

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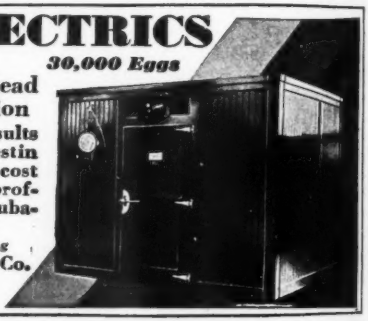

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Awards and Rules—Cover Title Contest

First Prize for April—$25.00

"The egg market's about to crash—let's (s)pray for improvement."

Mrs. Lee Long, R. 1, Denver, Indiana.

The following titles have been selected as the winners of the $5 cash prizes in the April contest:

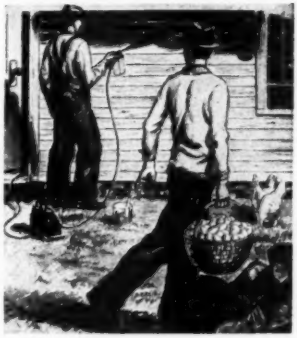
"Falling for electricity in more ways than one." Ettie J. Summers, R. 1, Berlin Heights, Ohio.

"Stumbling on to the electric way of painting." Mrs. S. J. Bagnal, Jacksonport, Wisconsin.

"Looking ahead would save many a dollar," Mrs. A. J. Cheney, R. 3, Conneaut, Ohio.

"About to fall for another charm, Electricity brings to many farms," T. H. Lloyd, R. 2, Girard, Illinois.

"A forward look saves many a downward fall," R. S. Fishbeck, R. 3, Heuvelton, N. Y.



Rules for June Contest

For the best title to the front cover illustration, a cash prize of $25.00 will be awarded.

In addition we will pay $5.00 for each of five titles given honorable mention.

In case of a tie, each winning contestant will receive the full cash prize to which he or she is entitled.

The winners will be announced in the August Issue.

Only the farmers or members of the farm family, to whom this magazine was sent, are eligible.

Only one title may be submitted

Use the form below or write your answers on a plain sheet of paper in similar form.

Be sure to answer question (a).

Write plainly and send your suggestion to the Title Editor, ELECTRICITY ON THE FARM, 24 W. 40th St., New York, before July 1.

My Title for June Front Cover picture is.....

.....

.....

.....

.....

.....

.....

(a) Is the baking for your family done at home?
Yes ☐ No ☐

.....

Name..... R. F. D.....

Post Office..... State.....

.....

Questions and Answers

Conducted by H. J. GALLAGHER
Agricultural Engineering Dept.
Michigan State College

Note—Readers are invited to send in questions which will be answered in the order received. Names are omitted from questions unless otherwise specified.

Question: *I have a 1/3 H. P. motor with which I wish to drive a corn sheller, grindstone and corn cracker. The motor already has a 2" pulley and the sheller has an 8" pulley, but this combination runs the sheller too fast. Please tell me what sizes I need for the other six pulleys, that is, one to drive the shaft, 3 more on the shaft to drive the 3 machines, and one each for the grindstone and the corn cracker.*

H. J. GALLAGHER

Answer: I have interpreted from your question that the grindstone, corn sheller and corn cracker are ordinary hand operated equipment, and that the speed of the motor is 1725. These three units each operated at 80 r.p.m. are but little faster than hand operation and should stay within the power limit of your 1/3 H. P. motor. Conveying power through a line shaft results in a loss of power. Use a good hanger type shaft bearing to reduce friction as much as possible. Equipment run at low speed requires less power but delivers less output. Grindstones are not designed for speeds much greater than 80 r.p.m. Where possible run a line shaft at low speed between 200 and 300 r.p.m.

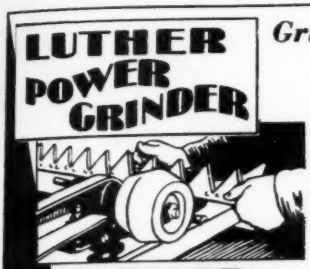
With a two-inch pulley on your motor use a 16-inch pulley on the line shaft, this will run the shaft at 217 r.p.m. Use three three-inch pulleys on the line shaft, one each for the grindstone, corn sheller and corn cracker. Use an eight-inch pulley on each piece of equipment. This provides uniform pulley sizes and the same operating speeds. Methods of determining the speed and size of pulleys is explained under *Questions & Answers* of January, 1930, publication of ELECTRICITY ON THE FARM.

Pulleys of two inches face can be used throughout. The belts should be flexible either three-ply rubber or one-ply medium to light weight leather. Only one piece of equipment can be operated at a time and it might be a simple matter to arrange them so that one belt could be used to run all three.

* * *

Question: *Can a one-half H. P. electric engine run a feed chopper in order that I can cut corn stalks and hay? If not, how much H. P. is needed? We have a pump jack with an electric motor to pump our water. Sometimes the pump stops and we need to give it a shake to start it again. Is there enough power or do you think a loose belt on the reducer is what causes the trouble? The engine is a one and a half horsepower.*

Answer: There are feed choppers on the market that can be run with a ½ H. P. motor but the operation would be very impractical. Corn stalks and hay do not adapt themselves to automatic operation and the cutting process would be so slow that the operator's time would be worth more



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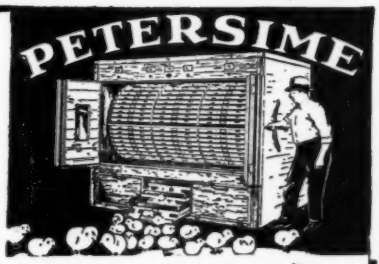

IRA M. PETERSIME & SON, EF-6, Gettysburg, Ohio

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Strong, rugged, built for heavy duty work. Fits any size pump. Arms designed for upright lift, with no side thrust. Belt driven from motor—a safety feature which eliminates breakage of jack or burning out of motor in case of a frozen pump.

Runs In Oil!

Gears, pinions, eccentric arms and bearings run in oil bath, in leak-proof reservoir.

Write for FREE Pump Jack Catalog

Stover Mfg. & Engine Co.
65 Lake Street Freeport, Illinois

than any increased feeding value that may result by chopping the roughage. If dry roughage is cut the process should be fast, requiring a 5 H. P. motor. A 5 H. P. motor and ensilage cutter do a good job of roughage cutting.

If your motor continues to run when your pump stops, it is because the belt is too loose or the gear of the pump jack is slipping on its shaft. If you are using a line shaft the pulleys may be loose on the shaft.

A 1½ H. P. motor is considerably larger than is used on most farm water pumps and I imagine without knowing the size of your pump or the operating conditions that you have ample power. An overloaded motor heats up and if run in this condition will burn out the windings. A thermal overload control adjusted to the ampere rating of your motor would protect the motor from overload.

Poultry "Dopes" in Feed or Water Won't Kill Vermin

AS a matter of economy the United States Department of Agriculture suggests that before investing money in "vermin eradicators" to be fed to poultry, the poultry keeper might better invest a penny for a postal card, address it to the Office of Information, United States Department of Agriculture, and request a copy of Technical Bulletin 60-T, Ineffectiveness of Internal Medication of Poultry for the Control of External Parasites.

The chances are, the Department of Agriculture believes, that after reading this pamphlet the poultryman will not want to spend any money for louse medicines, flea and mite medicines, or tick medicines to be given internally.

In a long series of experiments with a long list of such medicines and with about 50 such proprietary preparations in powder, liquid, and tablet forms, the investigators of the Food, Drug, and Insecticide Administration were unable to discover any conclusive evidence that these advertised "vermin eradicators" were of any use whatever. On the contrary, some of the chemicals injured the health of the fowls and, consequently, made them even more open to attack by parasites.

As a result of the experiments reported in this bulletin, the Food, Drug, and Insecticide Administration forced a number of manufacturers to withdraw these nostrums from the market. Some are still sold locally, however, and others are recommended by rule-of-thumb advisers as effective. The prevailing idea is that these substances given internally are taken up by the blood and then excreted to the surface, either to poison the parasites or to drive them from the fowl. Unfortunately for the theory, the results are not as predicted.

Poultry require careful and effective treatment for control of vermin, and there are many excellent powders, disinfectants, sprays, and dips that are of great value. Use the approved methods for controlling external parasites, says the department, but do not try to achieve the same results by dosing the poultry with medicine. Internal medication for external parasites is a waste of time and money at best, and at worst it may lead to serious injury to the health and well-being of the poultry.

Guilty Gullies

Approximately 17,500,000 acres of land in the United States formerly cultivated have been destroyed by gullying, or so severely washed that farmers can not afford to attempt cultivation or reclamation. This is enough land to support a nation, says the United States Department of Agriculture, and it exceeds the total area of tillable land in Japan.

Lady (to waiter in station restaurant): "Did you say I had twenty minutes to wait, or that it was twenty minutes to eight?"

"Nayther—Oi said ye had twinty minutes to ate, an' that's all you did have—and yer train's jist gone."

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LOW SPEED - BIG CAPACITY

Lightest running, cleanest cutting silo filler made. With 25 different makes, the GEHL holds 40% of all sales in Wisconsin. A marvelous cutter with all steel frame and fly-wheel, self-feeding, clogproof, gears running in oil; improved ball-bearing prevents end play. Will stand the gaff.

Cuts and Throws More Corn at 500 r. p. m.

A SAFE speed using only 5 h.p. motor, cuts power costs to as low as $1.75 per silo. Post yourself on this time and money saver. Interesting catalog upon request. Also name of nearest dealer. Write today.

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Thousands are changing to this simple, convenient, modern way to churn. It's the famous DAZEY principle adapted to electrical operation. Ends the drudgery. Just turn the switch. Made in 2, 4, 6 and 10 gallon sizes. Write today for catalog and further information.

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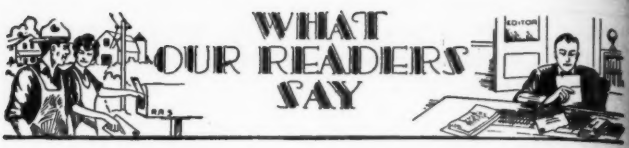

Eases Many Tasks

I AM another electric enthusiast. The privilege of being connected with a high line is almost enough to enthuse a stone image. We are so electrically fed up that rural life without electricity seems impossible.

The hired man just entered the house with a broad smile. With the aid of Trouble Lights and a well lighted garage, he has overhauled his car in two evenings. Little things like this, along with a General Utility Motor, Electric Water System, Motor for Milking Machine and other electric units, bring to the farmer less help and a much better class of help.

Immediately after joining the high line we began casting about for equipment. My first purchase was an Electric Range, Refrigerator and Washing Machine. (Allow me to pause for a moment to state that I would almost trade off my husband before I would any of these three units.) I expressed a wish that all my Christmas and birthday presents be some kind of an electric unit. I am now fully equipped. My last, but by no means least acquirement was an electric water system in the house. Water is the Alpha and Omega; without it all else fails.

The electric refrigerator was among the first pieces of household equipment purchased.

Just let me tell you about my electric incubator. It has a 250-egg capacity. I had the original water and lamp system removed and an electric element installed at a cost of $8.25. During a test hatch the average electricity used was 69.7 kilowatt-hours, which made the cost at a 3c rate, $2.09 per hatch.

We had an interesting experience last fall with our General Utility 7½ horsepower motor, when my husband declared his intention to fill both silos which held approximately 300 tons, with this motor. It caused considerable comment and misgiving among the neighbors. However, during the process of filling, several of these "doubtful Thomases" dropped in and were amazed at the even tenor in which this motor ate corn bundles. The silos were filled in three days. Our next electrical venture will be a hay hoist. The one sure way to meet the challenge of labor is by using electricity.

Mrs. B. E. Cornue,
Box 614, Sioux Falls, S. D.

EDITOR'S NOTE—*The Cornue farm is located on the Renner Experimental Rural Electrification line, which was put in service in 1923. This is one of the first two experimental farm lines put in service in this country.*

Our Chore Boy

We were quite heavily in debt when we installed electricity, and it was necessary to work out a scheme to make electricity pay its own way. The "chore boy," our 5 horsepower portable motor, was the answer.

Mrs. E. Witter,
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